Ancient Monuments Laboratory
Report 44/93

GEOPHYSICAL SURVEY
REIGATE PRIORY, SURREY

N Linford

Ancient Monuments Laboratory Report 44/93

GEOPHYSICAL SURVEY
REIGATE PRIORY, SURREY

N Linford

Summary

A thorough resistivity survey was conducted in the grounds of Reigate Priory School in an attempt to locate the remains of the former priory claustral buildings. The results were disappointing, in part due to the key-hole nature of the survey and perhaps also confused by subsequent landscaping. However, the survey did reveal a former geometric garden design within the four lawn parterres off the present sunken garden.

Author's address :-

N Linford

Ancients Monuments Laboratory
English Heritage
23 Saville Row
London
W1X 1AB

Reigate Priory, Surrey

Report on Geophysical survey, June 1993

Introduction

Research by the Monuments Protection Programme Field Worker (MPPFW) at the Surrey Records Office failed to find unequivocable evidence that the remains of the cloisters at Reigate Priory were positioned south of the current building as indicated upon the Ordnance Survey map. Further evidence from a recent archaeological watching brief (Williams 1993) during the installation of floodlighting for the southern elevation of the current building also failed to detect the presence of building remains, but did detect buried walls adjacent to the sunken garden. The aim of the geophysical survey reported upon here was to detect any surviving remains of the former priory buildings and relate them to the observations made during the watching brief. It was hoped that this would provide evidence for a more suitable constraint area.

The site (OS NGR TQ250 500) lies over the Folkestone Beds division of the Lower Greensand. The standing buildings currently form part of the Reigate Priory State Junior School.

Method

A survey grid of 30m squares was established over the accessible areas of the site immediately south of the current buildings (see Location plan). For convenience, certain squares were offset from the base coordinates and the data from the sunken garden is all amalgamated into square 6.

A resistivity survey was made over squares 1 - 7 and in addition a conductivity (EM) survey was made over squares 1 - 3. Two resistivity data sets were collected with a Geoscan RM15 resistivity meter using the Twin Electrode array with a mobile probe spacing of 0.5m and 1m. Plots 1 and 2 display the raw data for both probe spacings, the 0.5m spacing responding more strongly to shallow anomalies than the deeper penetrating 1m spacing (Clark 1990). Further processing has been applied to produce enhanced images of the shallow apparent resistivity (plot 3), an estimate of the relative overburden depth (plot 4: 0.5m data subtracted from 1.0m data), and a contrast enhanced image of the 1.0m data (plot 6).

A Geonics EM38 electromagnetic conductivity meter and external AML datalogger was used to collect quadrature phase readings from squares 1 - 3. This data is presented in plot 5.

All data was collected at a 1m sample interval along parallel traverses and successive traverses were separated by 1m. Data was down-loaded to a micro-computer in the field and subsequently processed using a Tektronix graphics work station.

Results

Modern interference

A number of modern features have caused interference to both the resistivity and conductivity results. The most obvious of these are the present rose beds immediately S of the current school building (squares 1, 2, 3 and 7). The anomalies caused by these are most evident in the 0.5m resistivity data (plot 1) and bear testament to the moisture-retaining properties of a well manured flower bed.

Two distinct low resistance linear anomalies are also evident within the data. The first runs from the NW corner of square 1 along the the tarmac path to square 3; the second runs from the tap spur in the centre of the sunken garden (square 6), then diagonally to the NE of square 3 and appears finally to exit along the N edge of square 4. Interpretation of these low resistance anomalies as pipe trenches or rubble filled drains was made after reference to their strong response within the conductivity data (plot 5) (indicative of a magnetic target).

It is interesting to note that with the exception of a short portion running parallel to the traverses of the conductivity data (plot 5) none of the recent trenches for floodlighting have been detected by the survey. Also the lighting trench 2 (Williams 1993), heading S from the present building, did not detect the presence of the low resistance anomaly (pipe or drain) at its intersection in square 2 (although a distinct level of small roof tiles was encountered).

The 0.5m data (plot 1) shows an increased resistance in squares 4 and 7 although there are no topographic or geomorphological features on site to explain this effect. It is unclear as to whether this represents an area of archaeological significance, for example rubble from a former building, or range of buildings, or a more recent landscaping scheme to level the surrounding lawns.

Archaeological features

The most impressive of these is the revelation of a geometrical former garden layout beneath the four parterres of lawn within the sunken garden (square 6). The high resistance anomalies appear to be relatively shallow (plot 1 and 3) but appear as a uniform diamond with marked spurs on each corner and a central anomaly presently marked by a modern tree. These features are believed to date from the establishment of the sunken garden in the late C19th (Williams *pers comm*).

A low resistance linear anomaly is also evident to the W of the sunken garden (square 5) and aligns with the current pathway, suggesting that it formed an entrance path to the original garden. The high background resistivity in square 7 limits the identification of a similar anomaly on the E approach.

A further low resistance anomaly occurs in square 1 and has a strong high resistance feature running parallel to it to the N. Definition of these anomalies is restricted by the edge of the survey and the tarmac path. Neither anomaly appears within the conductivity data (plot 5) suggesting that the low resistance anomaly represents a ditch rather than a modern pipe or cable trench.

Two relatively deep high resistance linear anomalies are found in square 4 (plots 2, 4 and 6) and may be walls or or part of a drainage system. However the data is somewhat inconclusive as there are no orthogonal anomalies to provide a convincing building plan. The massive wall foundations observed during the recent watching brief have proved somewhat elusive with only a partial correlation with the isolated high resistance anomalies immediately N of the sunken garden in squares 2 and 3 (*cf* Williams 1993 *figure 1*). The loss of clarity in the data caused by the large rectangular rose beds in the latter squares severely limits the interpretation of the various high resistance anomalies within this area. The problem is exacerbated by the tarmac path which divides a deep high resistance anomaly which it cuts in the E of square 3.

Conclusion

The data provides little clear evidence of significant remains immediately S of the present building but has identified a number of linear anomalies to the E and W of the site; especially within square 4. Correlation with the recent watching brief is constrained and has been hampered by the keyhole nature of the available survey. The most successful outcome of the survey has been to establish the pattern of a more elaborate garden layout beneath the sunken lawn parterres and the suggestion of a previous pathway and entrance from the W.

Surveyed by: M Cole 7-10/6/93
N Linford

Report by: N Linford 2/7/93

References

Clark, A J 1990 Seeing Beneath the Soil, *Batsford, London 1990.*

Williams, D 1993 Report of an archaeological watching brief at Reigate Priory, 24/5/1993, *Report commissioned by Reigate and Bansted Borough Council.*

Location of survey

TQ 2550